

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

CONFIDENTIAL INFORMATION
This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE												
MOUNTING	DRAWING	DESCRIPTION	SECTION	CAR TYPE					WORK INSTRUCTION	SHEET ?		
				TC1	RA	MC	MS	TC2				
<input type="checkbox"/>	0178900432647	AAD00043329	CABODY-SHELL M2 ASSEMBLY	CB2220						PRA.CB1210.017813744 97/3.V25	YES	
<input type="checkbox"/>												
REV	DATE	MODIFICATION CONTENT							RESPONSIBLE	NAME	DATE	
0	10/01/2018	GIBELA NEW CREATION							APPROVER	Irumeleng Modiba	10/01/2018	
									CHECKER	Nosizo Phinda	10/01/2018	
									COMPILED	Thanyani Mathygu	10/01/2018	
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager							APPROVER	Irumeleng Modiba	2018/05/18	
									CHECKER	Nosizo Phinda	2018/05/18	
									REVISED BY	Ramokone Motema	2018/05/18	
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230							APPROVER	Irumeleng Modiba	2018/07/04	
									CHECKER	Nosizo Phinda	2018/07/04	
									REVISED BY	Ramokone Motema	2018/07/04	
3	2018/12/12	Added dimensional check points to CB1210							APPROVER	Irumeleng Modiba	12/122018	
									CHECKER	Nosizo Phinda	12/122018	
									REVISED BY	Ramokone Motema	12/122018	
5	22/01/2019	As per Baseline 10.2							APPROVER	Irumeleng Modiba	22/01/2019	
									CHECKER	Nosizo Phinda	22/01/2019	
									REVISED BY	Vanessa Ntuli	22/01/2019	
6	13/03/2019	Added D1 and D2 on Self - Inspection							APPROVER	Irumeleng Modiba	13/03/2019	
									CHECKER	Nosizo Phinda	13/03/2019	
									REVISED BY	Nosizo Phinda	13/03/2019	
10	21/08/2019	New Baseline 10.2.5							APPROVER	Irumeleng Modiba	21/08/2019	
									CHECKER	Nosizo Phinda	21/08/2019	
									REVISED BY	Nosizo Phinda	21/08/2019	
15	06/08/2020	New Baseline 10.2.5							APPROVER	Timothy Maimela	06/08/2020	
									CHECKER	Bongane Masina		
									REVISED BY	Bongane Masina		
20	19/04/2021	New Baseline change 10.3							APPROVER	Timothy Maimela	19/04/2021	
									CHECKER	Bongane Masina		
									REVISED BY	Bongane Masina		
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING							APPROVER	Mphahlele Collins	17/08/2021	
									CHECKER	Mpho Mulaudzi		
									REVISED BY	Mpho Mulaudzi		
25	21/02/2022	New Baseline change 10.3.1							APPROVER	Mphahlele Collins	21/02/2022	
									CHECKER	Andani Muthelo		
									REVISED BY	Andani Muthelo		
26	14/04/2023	Addition of welding consumable traceability							APPROVER	Ntuli Vanessa	14/04/2023	
									CHECKER	Mchlangane Amogelang		
									REVISED BY	Mchlangane Amogelang		
27	27/07/2023	Added verification of loaded parts							APPROVER	Ngobeni Tyson	27/07/2023	
									CHECKER	Zwane Ntokoza		
									REVISED BY	Mchlangane Amogelang		
28	07/11/2023	Addition of welder traceability							APPROVER	Ngobeni Tyson	07/11/2023	
									CHECKER	Andani Muthelo		
									REVISED BY	Ntokoza Zwane		
TRAINING	CAR	OPERATOR NUMBER	WPS NO	DATE	SELF INSPECTION NUMBER			PAGES				
025	N/2	MN/SA	571197	30/04/2024	SL.CB1210.247.V28			17				



CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev. 28 Project: PRASA
SI.CB1210.247.V28

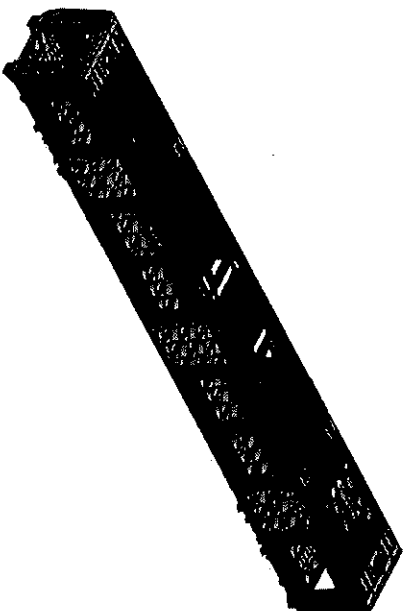
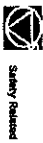
Date 07/11/2023

Cat: M2

NOTE

Work station:

CB1210



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of document					Status	Classification	Signature/Date (Manufacturing)	Signature/Date (Quality)
	ISI	IN	EX	IN	ISI				
DTR31374497/3		X							N/A
						✓			30/04/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process					Signature/Date (Manufacturing)	Signature/Date (Quality)
Instrument	Serial Number	Calibration/Verification	Expiry Date			
TIKUAL	328252	15/05/24		✓	30/04/24	30/04/24
SON TAPR	6181P 0080	18/03/24		✓	30/01/24	30/04/24
LASER TAPR	125425924	08/01/24		✓	30/01/24	30/04/24

I.3 - Consumables

Welding Consumable Control - Used for Special Process					Signature/Date (Manufacturing)	Signature/Date (Quality)
Item Number	Item Description	Welding Process				
AUTIDA 308 LSI	E220880	MIG	✓		30/04/24	30/04/24
ER 309 LSI	318394	MIG	✓		30/04/24	30/04/24

Handwritten notes and signatures at the bottom of the page.














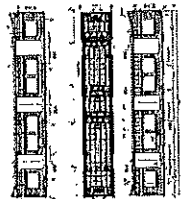




CARBODYSHELL M2 ASSEMBLY DTR313744973

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07/11/2023

II - Self Inspection - Items to Check

II.1 - Items to check

Item	Reference	Description	Approved / Rejected / Pending	Signature (Inspector)	Signature (Client)
01	N/A	Verification of correct ports loaded (Sidewells, Endframes, Roof and Underframe)	AA00001373051	 20/04/24 30/04/24	 20/04/24 30/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD00000210675	 20/04/24 30/04/24	 20/04/24 30/04/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 • DTD00000210675	 20/04/24 30/04/24	 20/04/24 30/04/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - AEC - 0000	 20/04/24 30/04/24	 20/04/24 30/04/24
05		Cleaning of all Stainless Steel Surface	According to GIB-WEL - PROC-0002	 20/04/24 30/04/24	 20/04/24 30/04/24
06		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	 20/04/24 30/04/24	 20/04/24 30/04/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and filler sampling as described in DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	 20/04/24 30/04/24	 20/04/24 30/04/24

2024-04-14

Signature

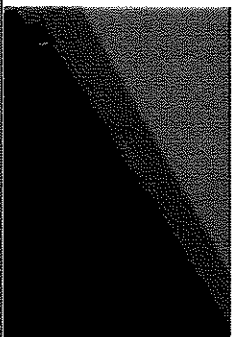


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Welder traceability

Roof ring welds



LHS

Boiler maker (Name & Sign): Tim No [Signature] Welder (Name & Sign): Thobang [Signature]

RHS

Boiler maker (Name & Sign): Tim No [Signature] Welder (Name & Sign): Thobang [Signature]

END 1

LHS

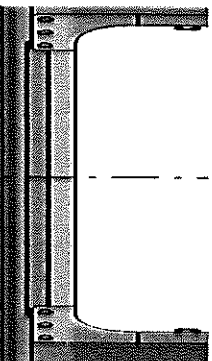
Boiler maker (Name & Sign): Tim No [Signature] Welder (Name & Sign): Thobang [Signature]

RHS

Boiler maker (Name & Sign): Tim No [Signature] Welder (Name & Sign): Thobang [Signature]

END 2

Door ring welds



LHS

Boiler maker (Name & Sign): Tim No [Signature]

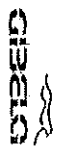
RHS

Boiler maker (Name & Sign): Thobang [Signature]

Welder (Name & Sign): MITOKOZI [Signature]

Welder (Name & Sign): MITOKOZI [Signature]

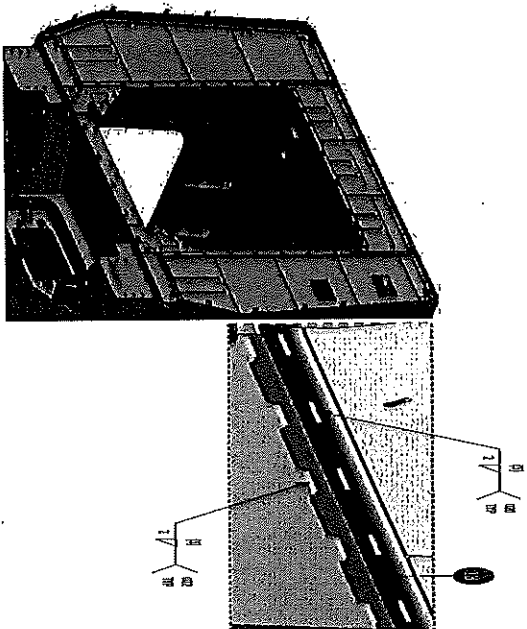
Sign



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ELF Reinforcement Plates

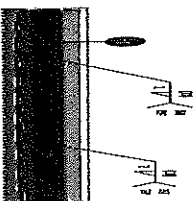


END 1

Boiler maker (Name & Sign): IBRAHIM S. ALI

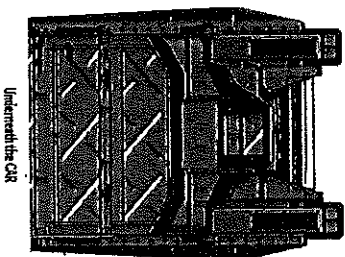
Welder (Name & Sign): KENTY K. ALI

END 2

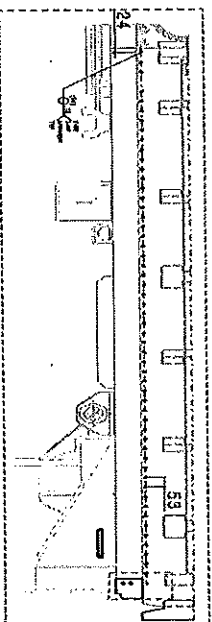


Boiler maker (Name & Sign): GIBCO

Welder (Name & Sign): S. ALI



Underneath the CR



FEDOU

OPERATOR:

LEBOGOTI M. M. M. M.

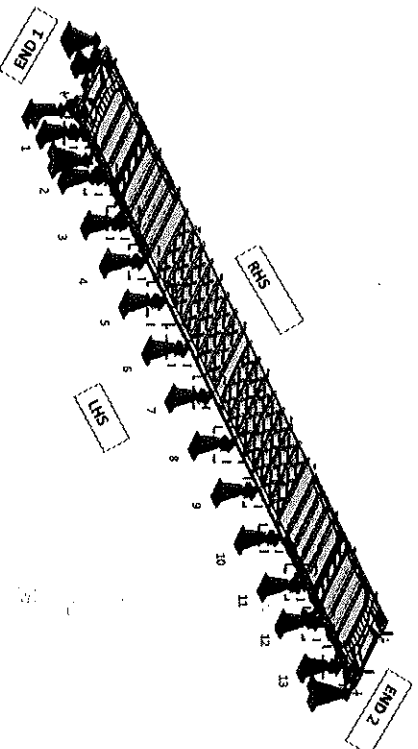


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Specifications of Details for CBS measurement



Measure gap between jig pillar / chair and underframe = 0mm. No

After loading and damping

Fill in the gap found on each jig pillars / chair and underframe should be 0mm.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Right Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature Operators:

Date: 30/09/24

After Welding

Fill in the gap found on each jig pillars / chair and underframe should be 0mm.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Right Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature Industrial Quality:

Date: 20/09/24

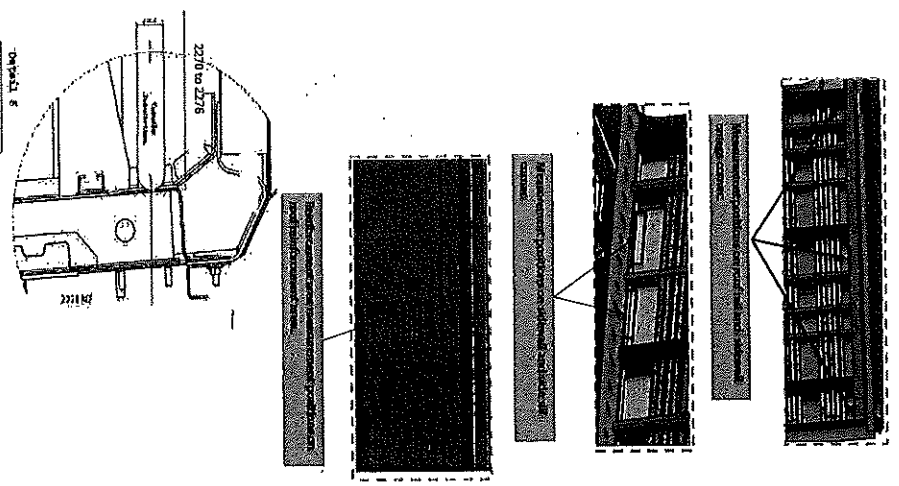
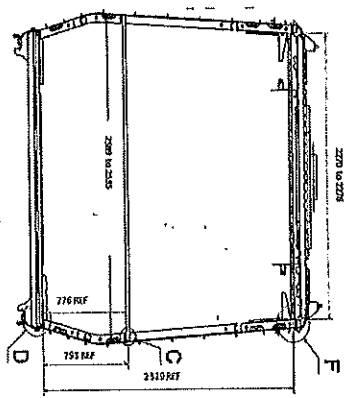
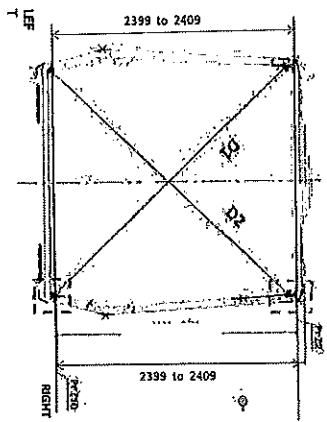
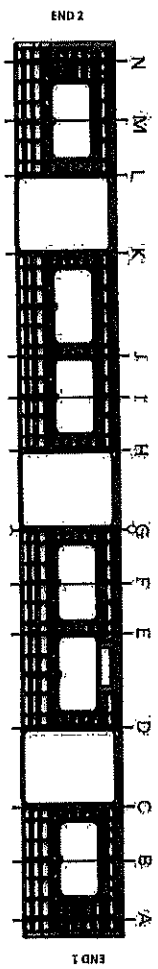


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Specifications of Details for CB5 measurement



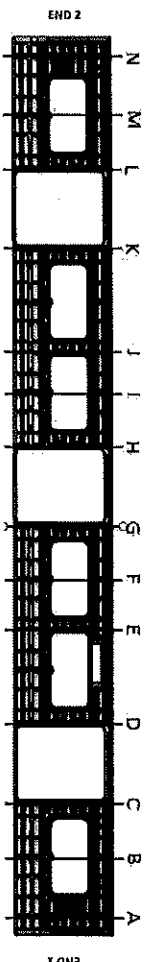


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Specifications of Details for CBS measurement

BEFORE WELDING



Note: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A 3269	3268	1	2406	2407	1
B 3268	3266	2	2405	2406	1
C 3266	3267	1	2405	2405	0
D 3267	3268	1	2406	2405	1
E 3266	3266	0	2406	2404	2
F 3265	3266	1	2405	2405	0
G 3268	3267	1	2404	2405	1
H 3266	3267	1	2405	2407	2
I 3266	3264	2	2406	2405	1
J 3265	3265	0	2406	2406	0
K 3267	3267	0	2405	2404	1
L 3266	3267	1	2406	2404	1
M 3265	3268	3	2406	2407	1
N 3269	3273	1	2406	2406	0

10
20/04/24

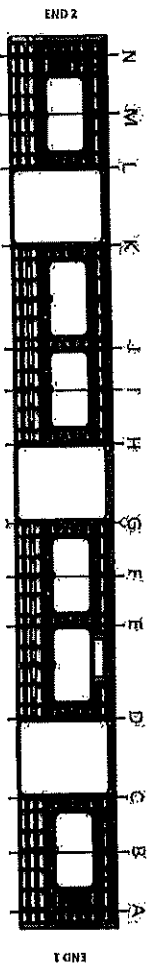


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

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Specifications of Details for CBS measurement

AFTER WELDING



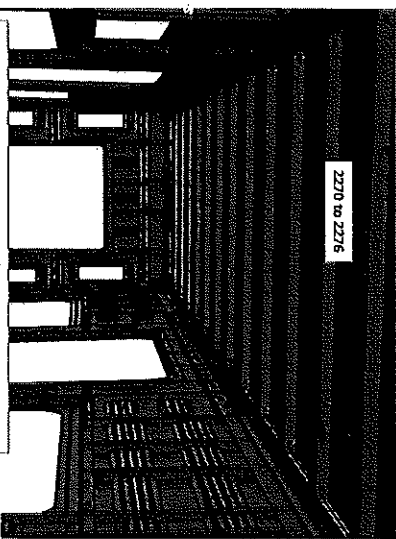
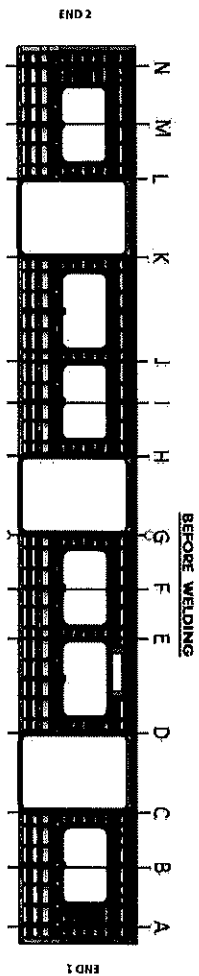
Note: The difference in Height values measured on the LHS and RHS should be 52MM on each point.

Record D1 values		Record D2 values		D1-D2 ≤ 5mm		2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3295	3295		0		2407	2407	0
B	3266	3268		2		2406	2405	1
C	3294	3295		1		2405	2406	1
D	3295	3293		2		2406	2406	0
E	3265	3266		1		2404	2405	1
F	3266	3264		2		2406	2405	1
G	3295	3294		1		2407	2406	1
H	3294	3294		0		2404	2405	1
I	3264	3265		1		2402	2406	2
J	3265	3265		0		2406	2406	0
K	3295	3295		0		2405	2404	1
L	3294	3295		1		2405	2405	0
M	3268	3264		4		2406	2405	1
N	3293	3294		1		2406	2407	1

30/01/24

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CBS measurement

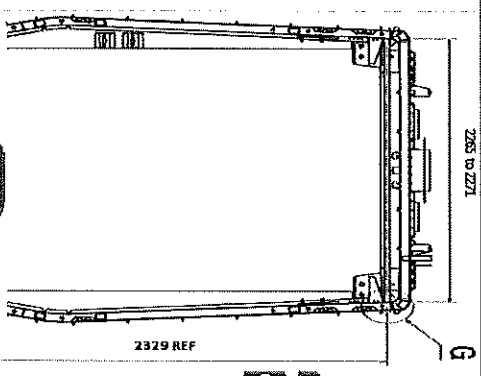


Do not consider reinforcement (Take measurements top area of xee profile

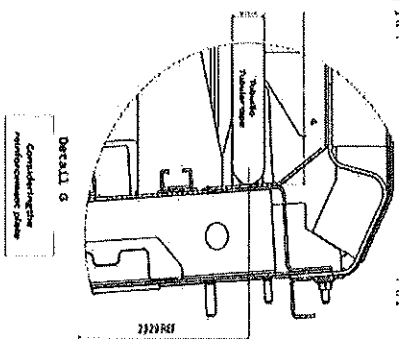
2265 to 2271

2270 to 2276

A	2271
B	2275
C	2273
D	2272
E	2277
F	2276
G	2272
H	2273
I	2276
J	2278
K	2273
L	2272
M	2274
N	2271



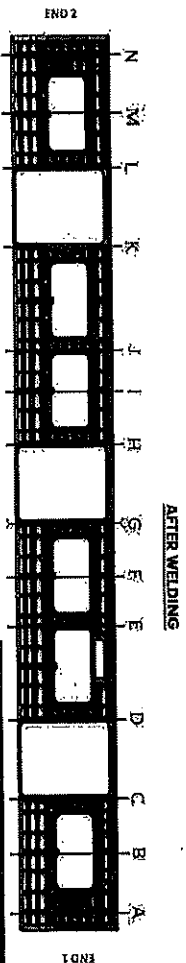
2265 to 2271



Detail G
Consider the reinforcement plate

30/04/24

CBS measurement



2265 to 2271

2270 to 2276

A	2268	NA
B	NA	2273
C	2266	NA
D	2264	NA
E	NA	2276
F	NA	2275
G	2270	NA
H	2268	NA
I	NA	2276
J	NA	2276
K	2268	NA
L	2269	NA
M	NA	2276
N	2265	NA

AFTER WELDING

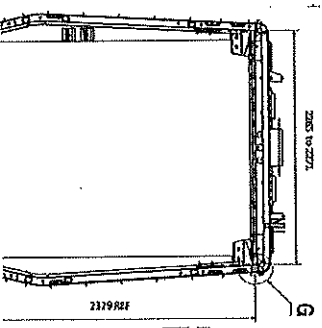
2270 to 2276

Do not consider reinforcement (Take measurements top area of zee profile)

2265 to 2271

Take measurement close to radius (considering reinforcement)

2265 to 2271



2265 to 2271

Detail 8

30/04/24



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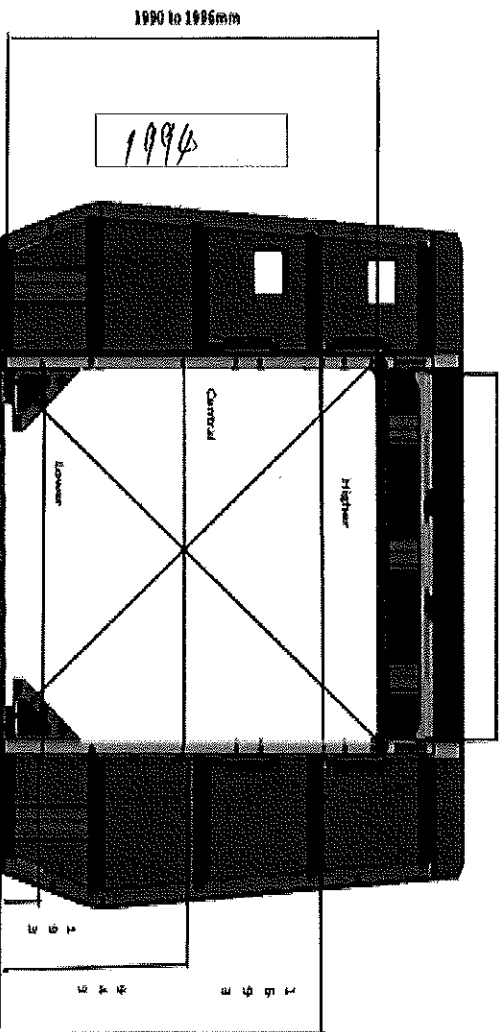
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CBS measurement

End frame 1

1380 to 1382 mm



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1382

D1 2415

Central Dimension

1381

D2 2414

Lower Dimension

1381

D1-D2 1

30/01/24

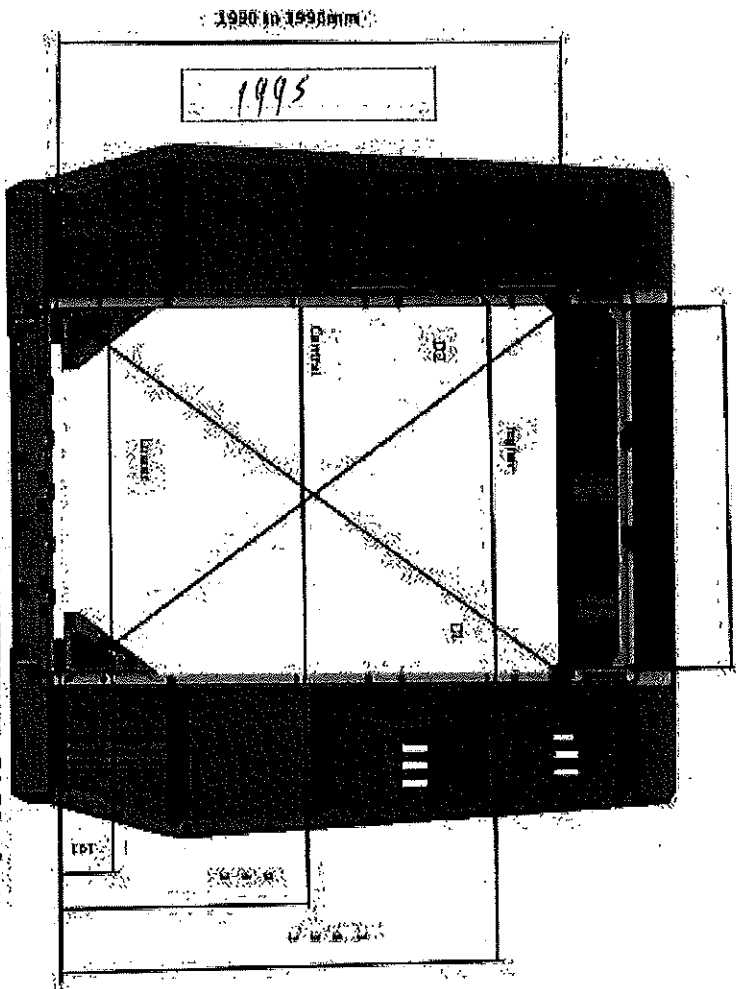


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End frame 2



DIAGONAL DIFFERENCE D1-D2 5.3mm

1381

D1

2414

1381

D2

2414

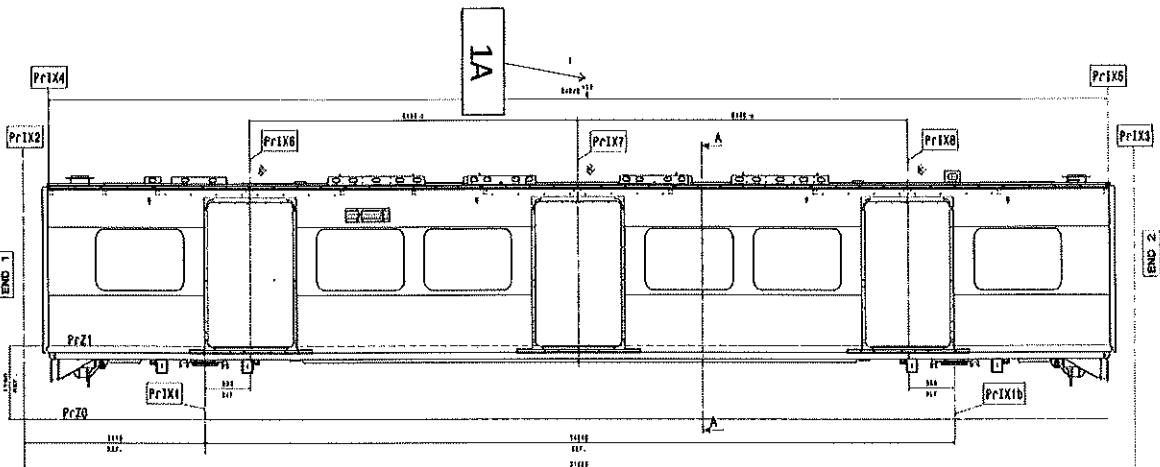
1380

D1-D2

0

30/04/24

Specifications of Details for CBS measurement

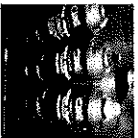


LEFT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	20615


RIGHT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	20615

Dye penetrant test

Dye-penetration test to be performed by quality personnel



[illegible]

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Self Inspection - Final Result

Is the car good to advance in the next workstation/process?
(Approval of Operations and Industrial Quality)

HOLD POINT			DATE	NAME	SIGNATURE
			30/04/24	Luis M. Operations	LM
			30/04/24	Andoni Industrial Quality	Andoni
				Operations	
		(If activities are not complete, the missing activities must not impact the next stage) Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.) There are activities pending that impacting the activities of the next process (Obs: (To describe problems below)) There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

In case of "NO GO", the operations manager must define below action plan to ensure "GO".					
Item	Description	Responsible	Due date	Status	

Operations

Quality

GIBELD

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION
This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE

NO.	DATE	DESCRIPTION	STATUS	CAPTION				WORK INSTRUCTIONS	SHEET
				NO.	NO.	NO.	NO.		
0	01/02/2018	GIBELD NEW CREATION						PRASA 1220-276 V29	YES
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PVE Manager to Quality Manager						7/172	
2	2018/07/05	Carlin dimensional checks added and others moved to CS210							
3	2018/06/12	Width tolerance as per 01000033600							
5	24/01/2019	As per Baseline 10.2							
6	13/03/2019	Added D1 and D2 on Self-Inspection Remove length measurements							
7	27/05/2019	Removed measurement positions on the display windows							
10	22/08/2019	New Baseline 10.2.5							
15	06/08/2020	New Baseline 10.2.6							
20	19/04/2021	New Baseline change 10.3							
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING							
25	20/02/2022	New Baseline change 10.3.1							
25	14/06/2022	Update Minimum temperature requirement for sealant application							
27	19/10/2022	Addition of traceability for sealant application and welding.							
28	14/04/2023	Added sealant batch number & welding consumables traceability							
29	28/10/2023	Addition of Tracker quantity							
225	M02	Tebelelo	30/04/24					SLCB1220-276 V29	15

GIBCO

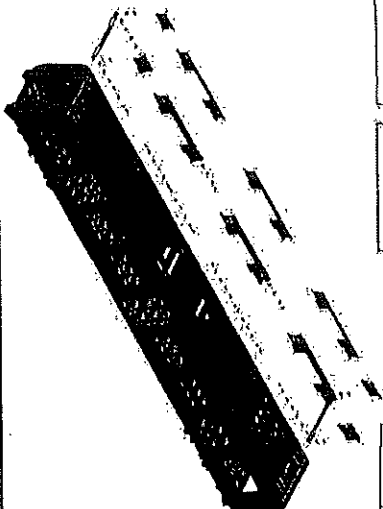
CARBOVYSHELL M2 ASSEMBLY DTR31374872

Rev. 29
Date 28/02/23
Project: POASA
SI, CB1220.276.V29

Doc. No. _____

Notes section:

CB1220



1 - Documentation and Instruments Control

1.1 Documentation Control

Doc. No.	Type of Doc.				Status	Date	Signature	Date	Signature
	Rev.	Ed.	Ver.	Ed.					
DTR31374872	1	1	1	1	✓	29	30/04/24	✓	30/04/24

1.2 Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process									
Instrument	Model	Serial	Calibration	Valid	Signature	Date	Signature	Date	Signature
Turbulator	32823-2	15103124	✓	✓	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24
Measuring base GIBCO	12104125	✓	✓	✓	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24

1.3 Consumables

Making Consumable Control - Used for Special Process									
Material	Model	Serial	Calibration	Valid	Signature	Date	Signature	Date	Signature
Welding wire	P231087 MIG	Welding V	✓	✓	30/04/24	30/04/24	30/04/24	30/04/24	30/04/24



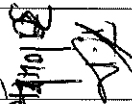

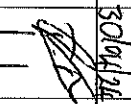

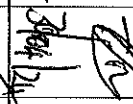

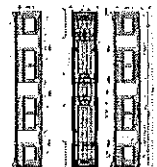
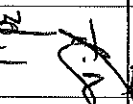
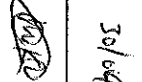
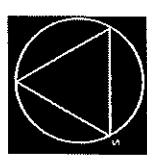
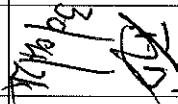


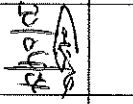
CARBOOYSHELL M2 ASSEMBLY DTB315T44572


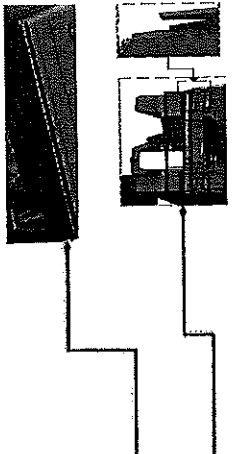



Rev. 29
Date 28/10/2023
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SLCB1220.276.V29

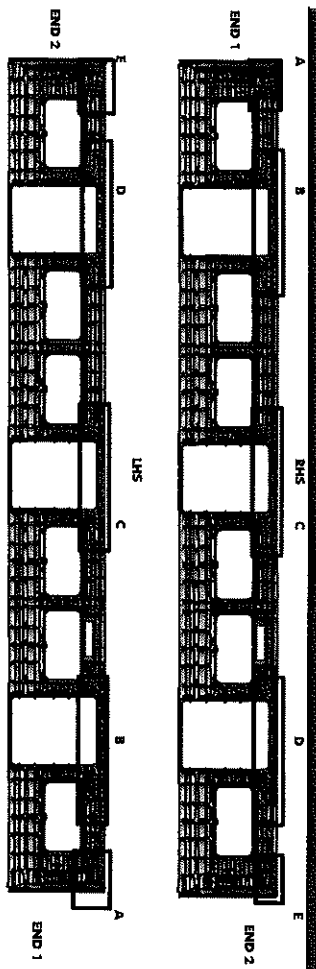
II - Self Inspection - Items to Check

1.1 - Items to check

Item	Description	Reference	Inspected	Inspector (Signature)	Inspector (Date)
01	N/A	Assembly according to Technical Engineering or PRL/CB220, DTB315T44572 Verification of fitment for all reinforcement brackets.	PRL/CB220, DTB315T44572		30/04/24
02	N/A	Control line of significant flaws which compromises the appearance or functionality	DTB0000220575		30/04/24
03	REFER TO ANNEXUE A	ARC Welding Inspected and approved according procedure.	IND-SAIL-WMS-016 TO GIB - TYPDEF - ARC - 0000 REFER		30/04/24
04	 Cleaning of all Reinforced Steel Surface	According TO GIB - WEL - PROC. 0002			30/04/24
05	 Functional dimensions approved according drawing or complementary document approved by Adhion engineers and registered in WIS document.	Approved according specified on pages below.			30/04/24
06	 Perform visual inspection of welds in 220% of the project. Run by permanent testing in electric arc welding (shield metal) as IND-SAIL-WMS-024. Run by permanent testing welds (shield metal) and fillet sampling as described in DTB0000220465.	As the welding procedure IND-SAIL-WMS- 024 and DTB0000220465.			30/04/24
07	N/A	Before application of coating record the epoxy date and make sure that the room temperature and humidity are within specified values as per WIS document. Temperature Room - Min (1) Min-Max Humidity Room - Min (1) Min-Max Min (1) Min-Max	Serial Batch No: 157 1654 Exp Date: 27/05/24 Actual Temperature: 15°C Humidity: 40%		30/04/24
08	N/A	Verification of coating application in certain regions in the drawings.	ANDROA 42329		30/04/24

	CARBODYSHELL WZ ASSEMBLY DTB13174572		Rev.	Project: PRASA
			28 Date 28/10/2023	SI.CB1220.276.V29
SEALANT APPLICATION				
AREA 1 & 2 END 1				
				
Operator (Name & sign): 				
Operator (Name & sign): 				
Operator (Name & sign): 				

	CARBODYSHELL M2 ASSEMBLY DTG313744572		Rev.	Project: PRASA
			28 Date 28/10/2023	SI.CB1220.276.V29
II - Self Inspection - Items to Check				



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
B	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
C	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
D	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
E	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>

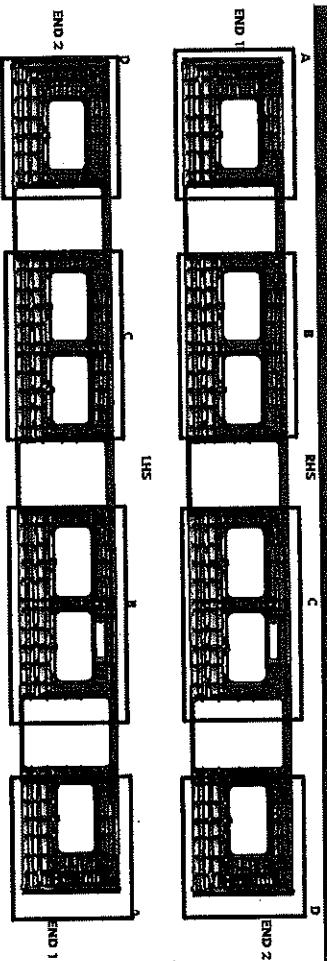
CIBELQ

CARBODYSHELL M2 ASSEMBLY DTIC13744672

Rev. 29 Project: PRASA

SI.CB1220.276.V29

II - Self Inspection - Items to Check

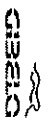


BRACKETING

C-RAILS:	Operator:	<i>Asadit</i>
	Operator:	<i>Asadit</i>
DOOR MECHANISMS:	Operator:	<i>hevi</i>
	Operator:	<i>hevi</i>
TAPPING PADS	Operator:	<i>Mkhaze</i>
	Operator:	<i>Johnny</i>
SEAT & LUGGAGE BRACKETS:	Operator:	<i>Tebele</i>
	Operator:	<i>Tebele</i>
SEAT BRACKETS VERIFICATION:	Operator:	<i>Tebele</i>
	Operator:	<i>Tebele</i>

WELDING

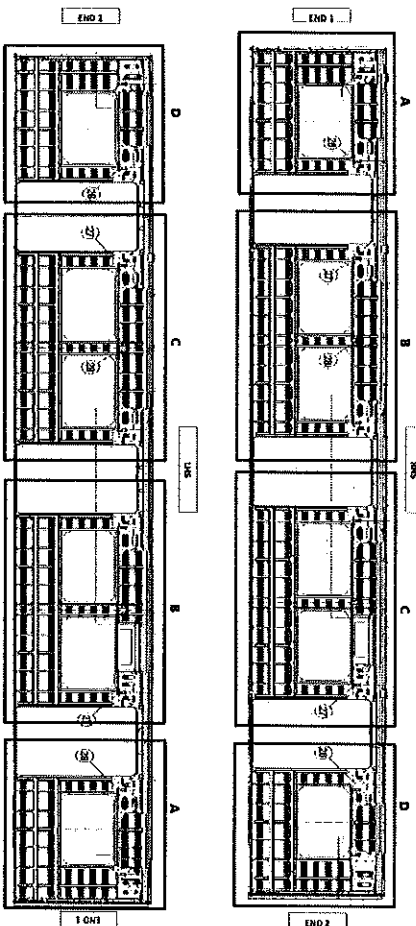
AREA	LHS	RHS
A (Seat brackets)	Operator (Name&sign): <i>Nordung</i>	Operator (Name&sign): <i>S. A. A. A. A.</i>
(C-rails, Luggage and earth bushes):	Operator (Name&sign): <i>Nokweng</i>	Operator (Name&sign): <i>S. A. A. A. A.</i>
B (Seat brackets)	Operator (Name&sign): <i>Nokweng</i>	Operator (Name&sign): <i>S. A. A. A. A.</i>
(C-rails, Luggage and earth bushes):	Operator (Name&sign): <i>Nokweng</i>	Operator (Name&sign): <i>S. A. A. A. A.</i>
C (Seat brackets)	Operator (Name&sign): <i>Sibing</i>	Operator (Name&sign): <i>Mkhaze</i>
(C-rails, Luggage and earth bushes):	Operator (Name&sign): <i>Sibing</i>	Operator (Name&sign): <i>Mkhaze</i>
D (Seat brackets)	Operator (Name&sign): <i>Sibing</i>	Operator (Name&sign): <i>Mkhaze</i>
(C-rails, Luggage and earth bushes):	Operator (Name&sign): <i>Sibing</i>	Operator (Name&sign): <i>Mkhaze</i>
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <i>Asadit</i>	Operator (Name&sign): <i>Asadit</i>
END 2 TAPPING PADS WELDING:	Operator (Name&sign): <i>Asadit</i>	Operator (Name&sign): <i>Asadit</i>



CARBONSTEEL MZ ASSEMBLY OTB3137446/7

Rev. 25
Date 28/10/2023
Project: PRASA
SI.CB1220.276.V29

MZ BRACKET INSTALLATION



QUANTITIES (M2)

SECTION	QUANTITY	OK	NOX
C-RAILS	1	✓	
SEAT BRACKETS	1	✓	
SEAT BRUSH	1	✓	

ROSE LINE:

QUANT. OF EACH END
SEAT BRUSH 1 OF EACH END

VERIFICATION BY: Teledo

SECTION	QUANTITY	OK	NOX
C-RAILS	1	✓	
SEAT BRACKETS	1	✓	
SEAT BRUSH	1	✓	

ROSE LINE:

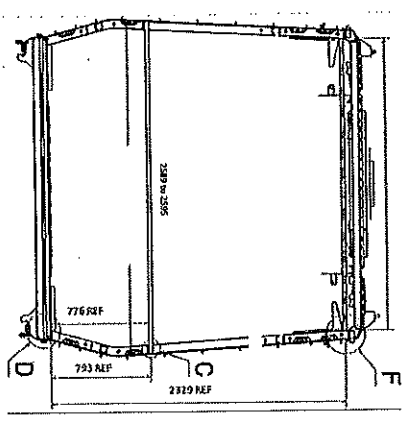
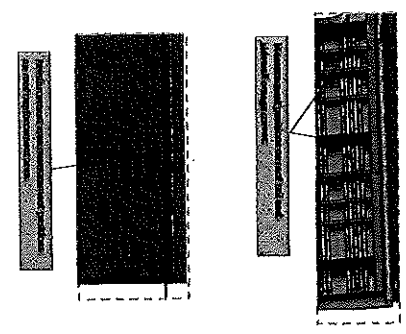
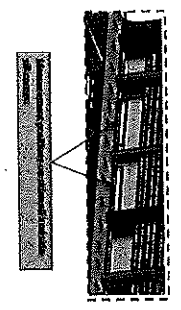
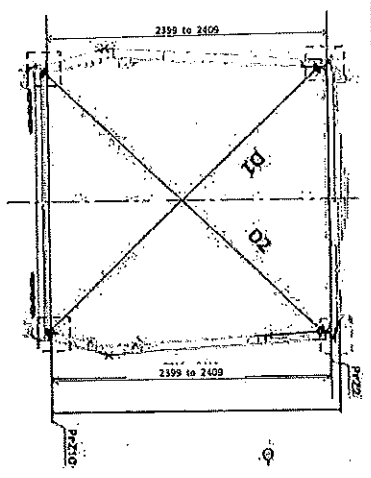
QUANT. OF EACH END
SEAT BRUSH 1 OF EACH END

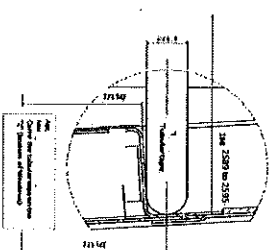
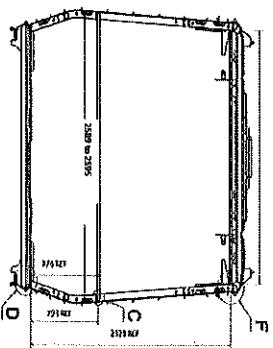
VERIFICATION BY: Teledo



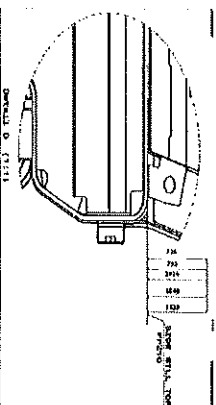
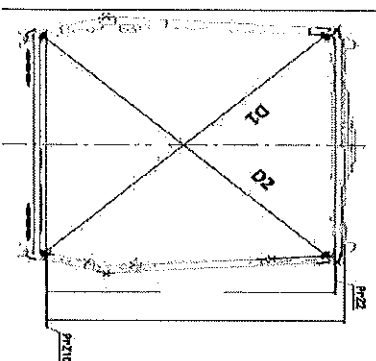
CARBON SHELL W/ ASSEMBLY DTN0374487Z


Rev.	23	Project	PRASA
Date	28/02/2023	SI	CB1220.276.V29

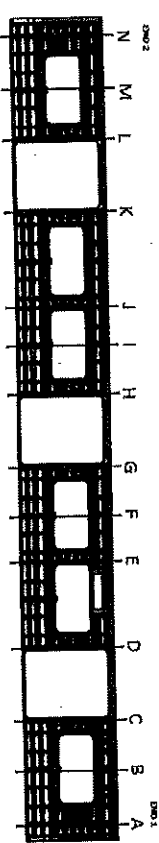




Take measurement close to radius

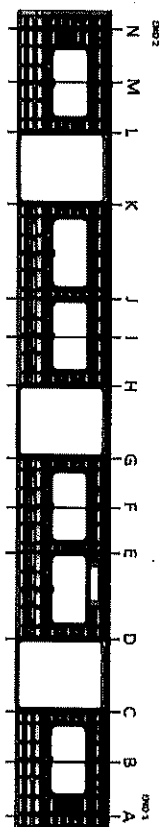


	CARBODY SHELL M2 ASSEMBLY DTIC13744872		Rev.	Project: PRASA
			29	
Date			SI.CB1220.276.V29	
28/10/2023				
CBS measurement				



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3500	3291	3	
B	3267	3265	2	
C	3296	3298	2	
D	3295	3291	2	
E	3265	3261	2	
F	3266	3264	2	
G	3296	3298	2	
H	3296	3298	2	
I	3264	3266	2	
J	3268	3266	2	
K	3296	3298	2	
L	3298	3296	2	
M	3268	3266	2	
N	3298	3296	2	



AFTER WELDING

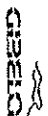
CIBELIO

CARBODIYSEL M2 ASSEMBLY DTB131744972

CBS measurement

Rev.	Project: PRASA
25	
Date	SI.CB1220.276.V29
28/10/2023	

Record D1 values	Record D2 values	D1-D2 < 5mm	2589 to 2595
A 3296	3298	2	2590
B 3268	3266	2	2591
C 3299	3297	2	2592
D 3300	3296	4	2590
E 3268	3267	1	2591
F 3269	3268	1	2590
G 3297	3298	1	2591
H 3298	3296	2	2592
I 3268	3267	1	2591
J 3266	3267	1	2590
K 3296	3295	1	2591
L 3300	3298	2	2590
M 3268	3266	2	2589
N 3296	3297	1	2592



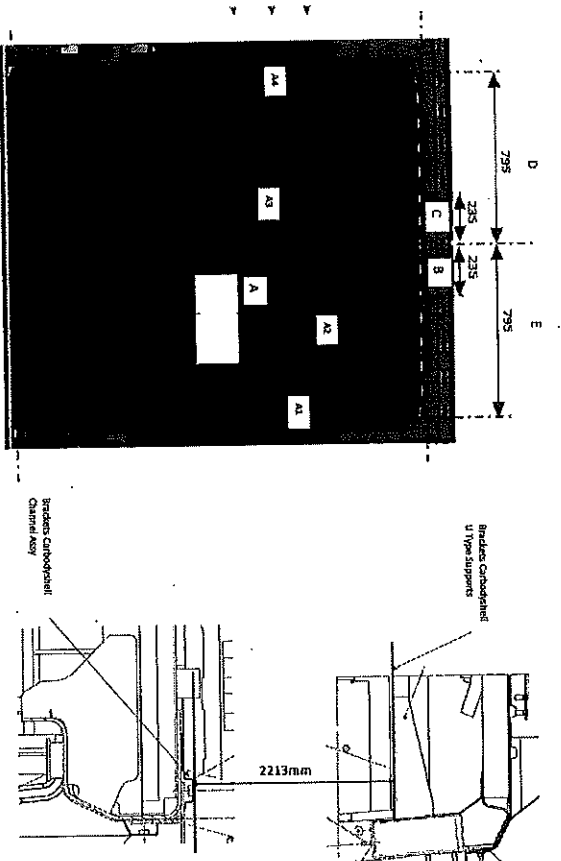
CARBODYSHELL NZ ASSEMBLY DTB313744572

Rev. 29 Project: PRASA

Date 28/10/2023

SI.CB1220.276.V29

Specifications of Details for CS5 measurement CB1220



DOOR 1 - INS

VALUE	ACTUAL
A1 2230 to 2232	7231
A2 2230 to 2232	7232
A3 2230 to 2232	7231
A4 2230 to 2232	7230
B 234 to 236	7235
C 234 to 236	7235
D 794 to 796	795
E 794 to 796	795

DOOR 2 - INS

VALUE	ACTUAL
A1 2230 to 2232	7230
A2 2230 to 2232	7232
A3 2230 to 2232	7231
A4 2230 to 2232	7230
B 234 to 236	7235
C 234 to 236	7234
D 794 to 796	795
E 794 to 796	794

DOOR 3 - INS

VALUE	ACTUAL
A1 2230 to 2232	7232
A2 2230 to 2232	7231
A3 2230 to 2232	7230
A4 2230 to 2232	7230
B 234 to 236	7235
C 234 to 236	7235
D 794 to 796	795
E 794 to 796	794

DOOR 1 - INS

VALUE	ACTUAL
A1 2230 to 2232	7232
A2 2230 to 2232	7231
A3 2230 to 2232	7230
A4 2230 to 2232	7231
B 234 to 236	7235
C 234 to 236	7235
D 794 to 796	795
E 794 to 796	794

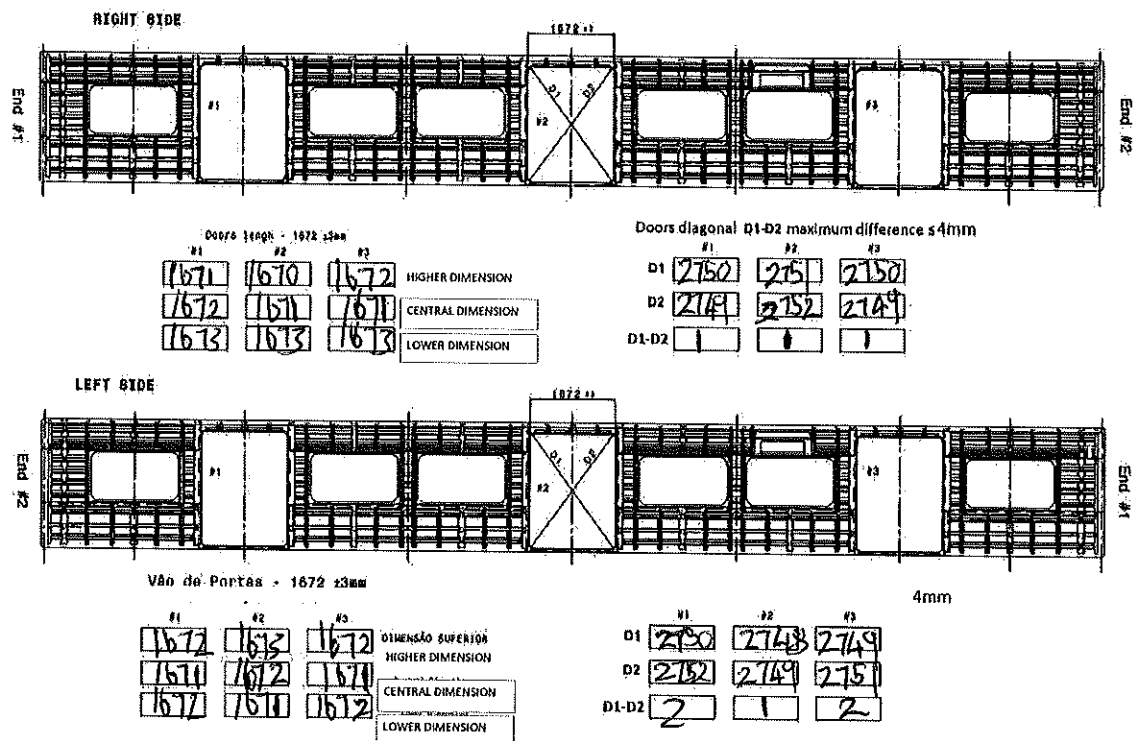
DOOR 2 - INS

VALUE	ACTUAL
A1 2230 to 2232	7230
A2 2230 to 2232	7231
A3 2230 to 2232	7230
A4 2230 to 2232	7230
B 234 to 236	7235
C 234 to 236	7235
D 794 to 796	795
E 794 to 796	795

DOOR 3 - INS

VALUE	ACTUAL
A1 2230 to 2232	7231
A2 2230 to 2232	7230
A3 2230 to 2232	7231
A4 2230 to 2232	7230
B 234 to 236	7235
C 234 to 236	7235
D 794 to 796	794
E 794 to 796	794

Specifications of Details for CBS measurement CB1220



GISELCO

CARBODYSHELL MC ASSEMBLY DT83137467/2

Rev. 29
Date 28/10/2023
Project: PRASA

SI.C81.220.276.V29

Self Inspection - Final Result

In the case of good to advance to the next manufacturing process, the inspection is reported as "Good" and no action is required.

DATE	NAME	SIGNATURE
28/10/23	Tetele	[Signature]
28/10/23	Inspector	[Signature]
	Inspector	
	Inspector	

HOLD POINT

✓	<p>(If 1 action is not correct, the missing actions must be checked the next step)</p> <p>Every self inspection performed conforms to the specification of the product (the same is reported by the inspection plan).</p> <p>There are actions pending that impact the activities of the next process (the activities of the next process are OK, (to describe problems below))</p> <p>There are non-conformities that impact the quality of the product and there is no corrective action defined yet</p>	Inspector	Inspector
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In case of "NO GO", describe blocking problems

In case of "NO GO", the operators manager must define below action plan to ensure "GO":

Item	Description	Responsible	Due date	Status

Quality


Tetele
Operator

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1 SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

This document and the information contemplated therein have to be considered as Confidential information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE					WORK INSTRUCTION	SAFETY ? 	
				TCA	MA	MA	MA	TCA			
<input type="checkbox"/>	AA0003774437	AA0004413329	CARBODYSHELL No ASSEMBLY	CB230					X	PR4 CB2230 AA000013 74437 V20	YES
<input type="checkbox"/>											
<input type="checkbox"/>											
<input type="checkbox"/>											
<input type="checkbox"/>											
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE		NAME		DATE		
0	2018/08/02	GIBELA NEW CREATION			APPROVER		Philippe Marques		2018/08/02		
					CHECKER		Nesico Pindela		2018/08/02		
					COMPLER		Nesico Pindela		2018/08/02		
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager			APPROVER		Iturneleng Modiba		30/5/2018		
					CHECKER		Nesico Pindela		30/5/2018		
					REVISED BY		Nesico Pindela		30/5/2018		
2	2018/05/07	Certain dimensional checks moved to CB1220			APPROVER		Iturneleng Modiba		2018/05/07		
					CHECKER		Nesico Pindela		2018/05/07		
					REVISED BY		Ramokone Morama		2018/05/07		
5	24/01/2019	As per Baseline 10.2			APPROVER		Iturneleng Modiba		24/01/2019		
					CHECKER		Nesico Pindela		24/01/2019		
					REVISED BY		Vanessa Ntuli		24/01/2019		
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements			APPROVER		Iturneleng Modiba		13/03/2019		
					CHECKER		Nesico Pindela		13/03/2019		
					REVISED BY		Vanessa Ntuli		13/03/2019		
10	23/03/2019	New Baseline 10.2.5			APPROVER		Iturneleng Modiba		23/08/2019		
					CHECKER		Nesico Pindela		23/08/2019		
					REVISED BY		Nesico Pindela		23/08/2019		
15	06/08/2020	New Baseline 10.2.6			APPROVER		Timothy Maimela		06/08/2020		
					CHECKER		Bongane Masina				
					REVISED BY		Bongane Masina				
20	19/04/2021	New Baseline change 10.3			APPROVER		Timothy Maimela		19/04/2021		
					CHECKER		Bongane Masina				
					REVISED BY		Bongane Masina				
25	20/02/2022	New Baseline change 10.3.1			APPROVER		Collins Mkhombhi		20/02/2022		
					CHECKER		Andani Muthelo				
					REVISED BY		Andani Muthelo				
26	14/06/2022	Update minimum temperature requirement for sealant application			APPROVER		Collins Mkhombhi		14/06/2022		
					CHECKER		Andani Muthelo				
					REVISED BY		Andani Muthelo				
27	26/07/2022	Threshold measurement addition			APPROVER		Collins Mkhombhi		27/07/2022		
					CHECKER		Andani Muthelo				
					REVISED BY		Andani Muthelo				
28	17/10/2022	Addition of traceability for sealant application			APPROVER		Collins Mkhombhi		17/10/2022		
					CHECKER		Nesiko Zwane				
					REVISED BY		Amogelang Mholampe				
29	14/04/2023	Added sealant batch number & welding consumables traceability			APPROVER		Vanessa Ntuli		14/04/2023		
					CHECKER		Nesiko Zwane				
					REVISED BY		Amogelang Mholampe				
30	06/11/2023	Added thresholds traceability for boiler makers and welders			APPROVER		Tyson Ngobeni		06/11/2023		
					CHECKER		Andani Muthelo				
					REVISED BY		Nesiko Zwane				
TRAINSET	CAR	OPERATOR NUMBER ALPS NO		DATE		SELF INSPECTION NUMBER		PAGES			
225	MR	438770 Zande		06/08/24		SI.CB2230.277.V29		11			



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Car:

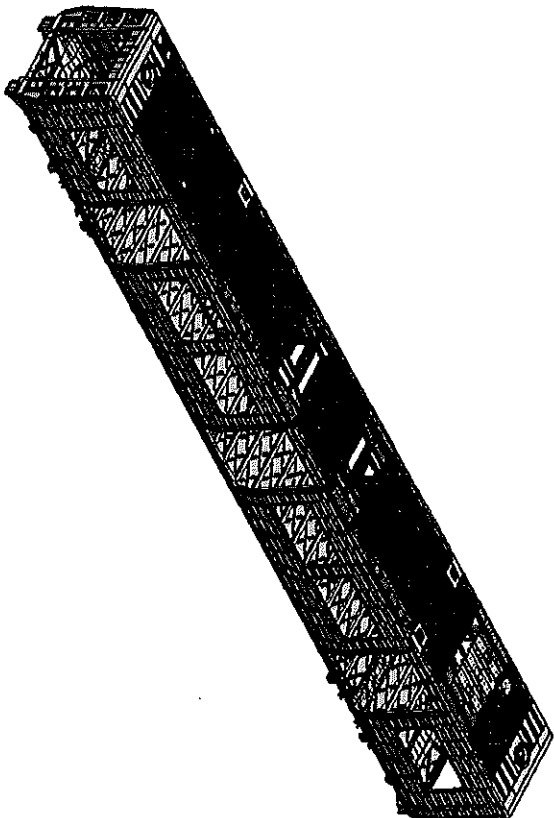
NCR:

Work station:

CB2230



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	NOK	Remarks	Signature/Date (Operations)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2						
PRA.CB2230.AA00001374497			X				30	X		N/A	482774	26/05/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Trailer	227B	26/06/24	X		482774	26/05/24
Tape measurement	G185794	25/04/24	X		482774	26/05/24
Combination square	G18002	27/07/20	X		482774	26/05/24
					46/05/24	

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 CSI	31374	MIG	X		482774	26/05/24
					46/05/24	



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II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Reviewed	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	OK			 06/05/24	 06/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	OK			 06/05/24	 06/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	OK			 06/05/24	 06/05/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	OK			 06/05/24	 06/05/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	OK			 06/05/24	 06/05/24
06		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	OK			 06/05/24	 06/05/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative Humidity Min - Max (1) Min-Max 25% - 80%	Sealant Batch No: <u>15272-30</u> Exp Date: <u>06/24</u> Actuals Temperature: <u>22°C</u> Humidity: <u>47%</u>	OK			 06/05/24	 06/05/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	OK			 06/05/24	 06/05/24



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II - Self Inspection - Items to check

SEALANT APPLICATION

VIEW C END 2

Operator:

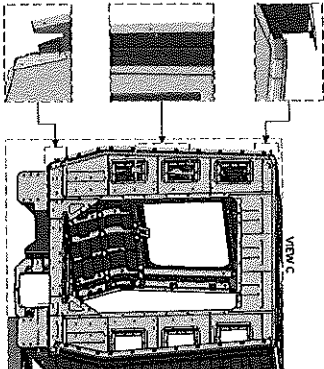
Zanele

[Signature]

Operator:

Zanele

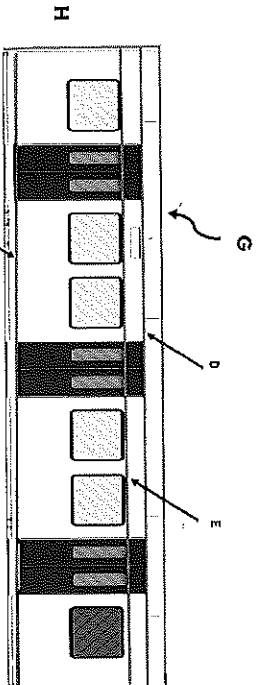
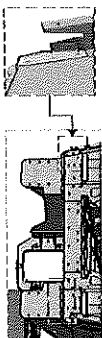
[Signature]



Operator:

Zanele

[Signature]



Area D,E,F,G,H,I

Operator (Name & sign) :

D.E.F.G.H.I

LHS

RHS

D,E,G

Operator (Name & sign) :

Sinile

LEATO

Operator (Name & sign) :

[Signature]

HI (top)

Operator (Name & sign) :

Isenadio

LEATO

Operator (Name & sign) :

[Signature]

F (HI) bottom

Operator (Name & sign) :

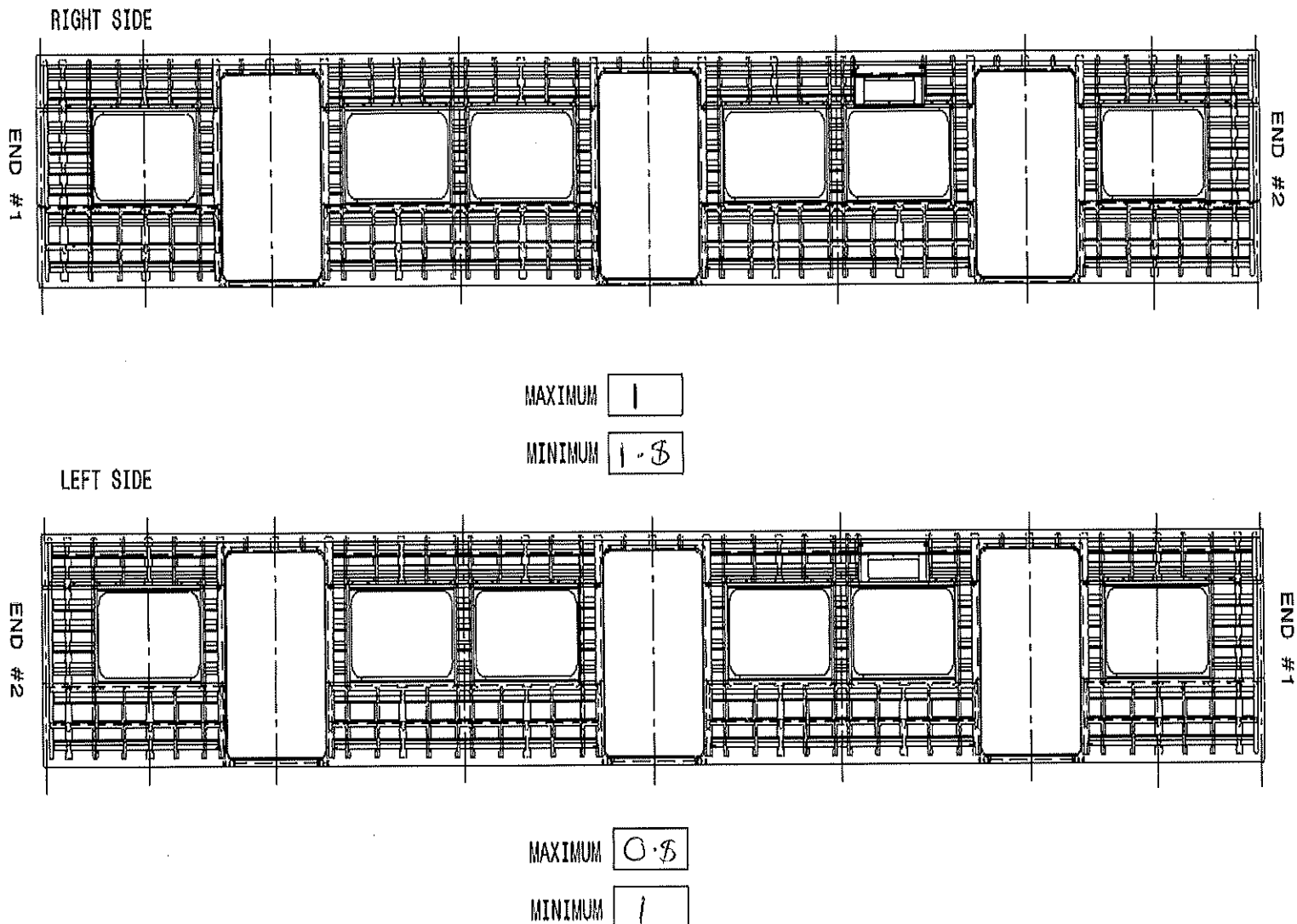
[Signature]

Sinile

Isenadio

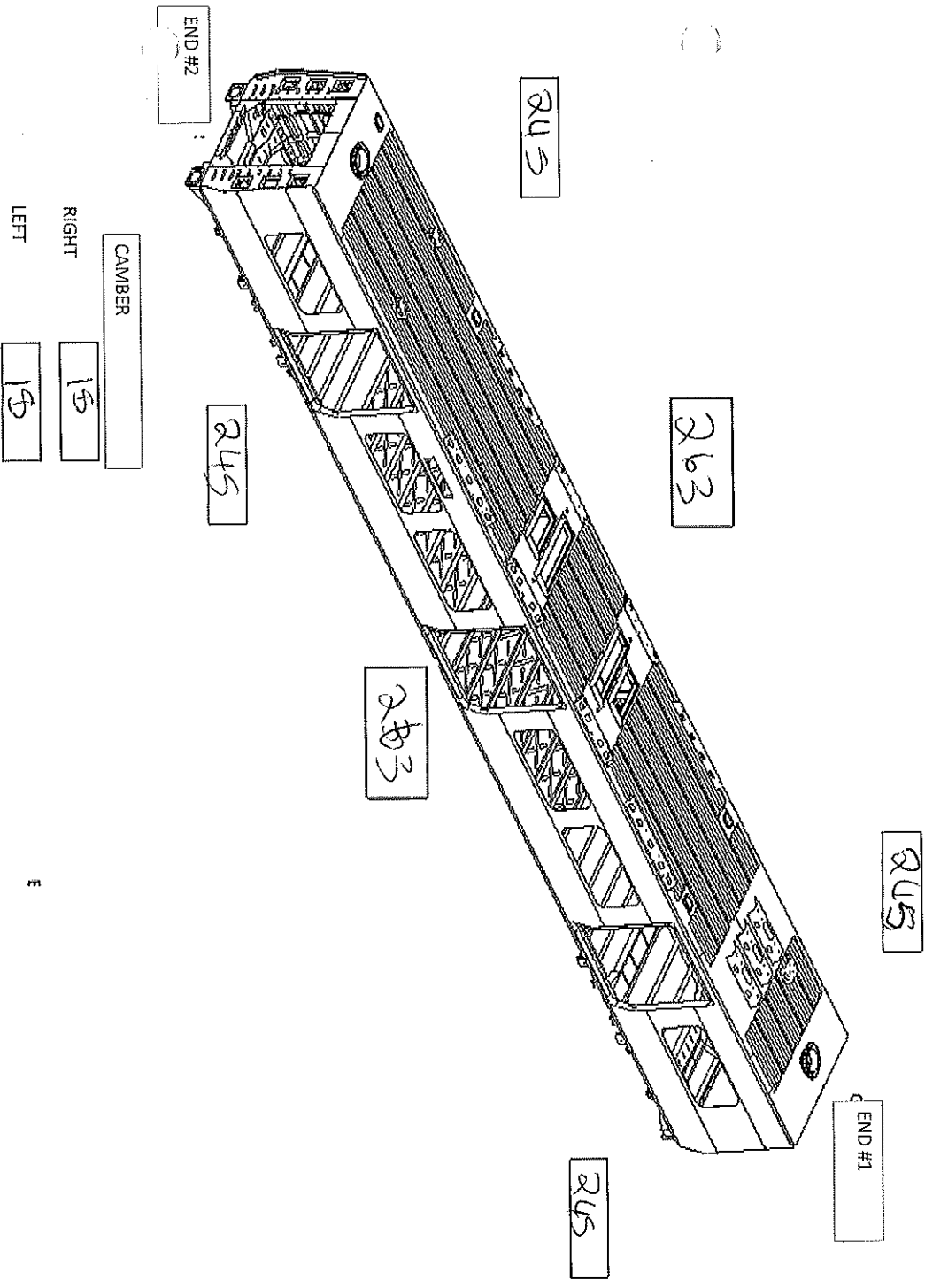
Specifications of Details for CBS measurement CB1230

Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



Specifications of Details for CBS measurement CB1230

Specified Camber for car out of jig is 18mm(-0mm + 2mm)





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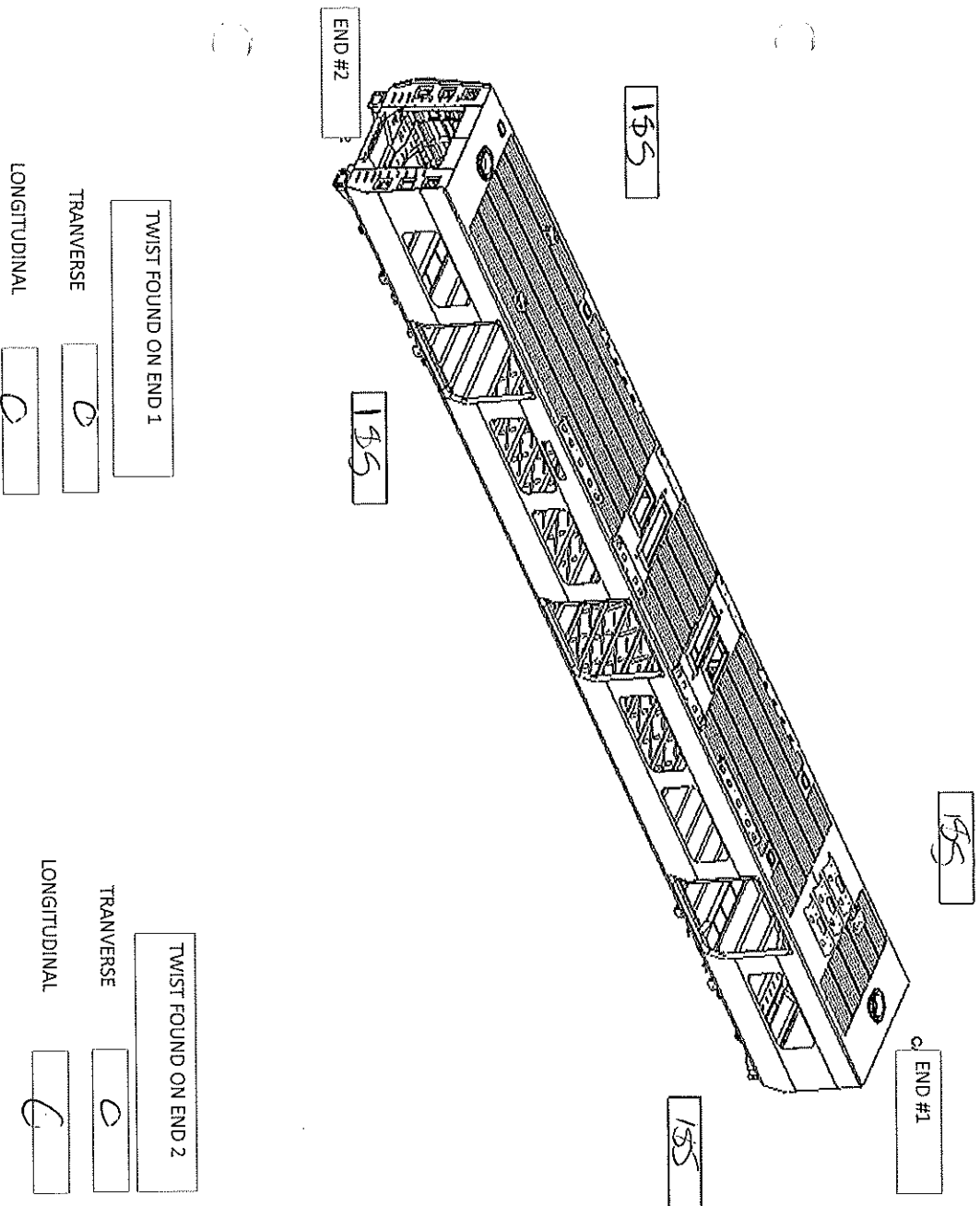
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Specifications of Details for CBS measurement CB1230

Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 following twist measurement document.





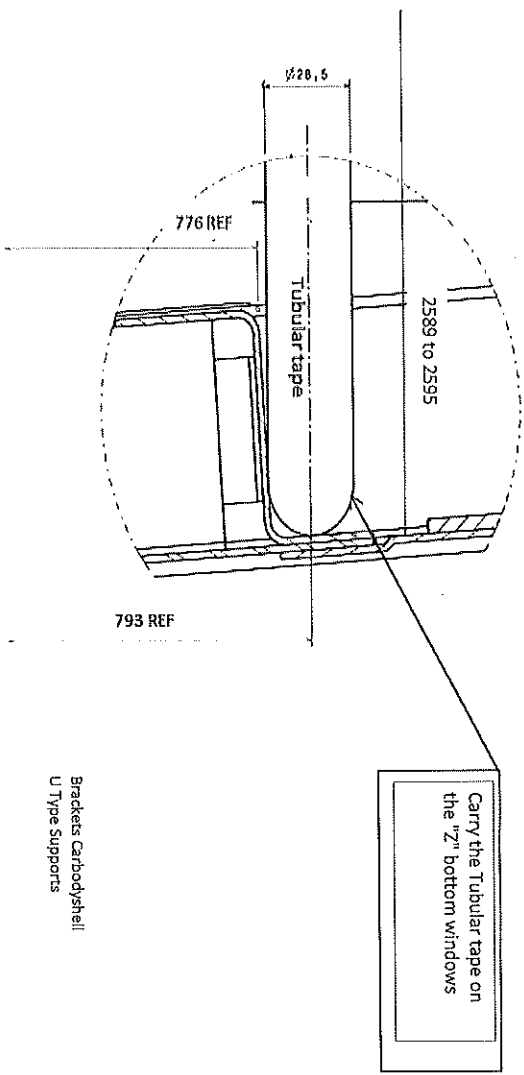
CARBODYSHELL M2 ASSEMBLY AA00001374497

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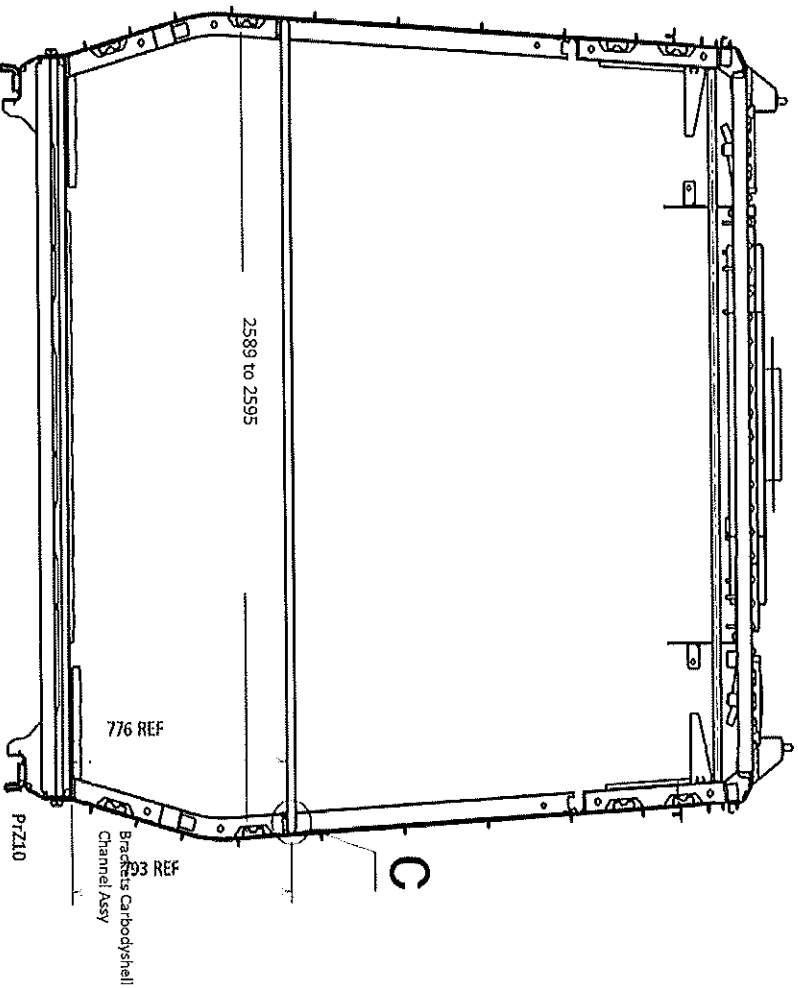
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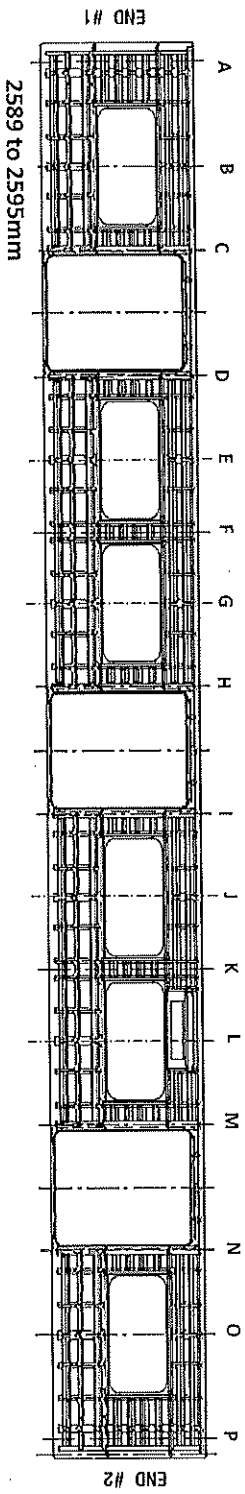
Specifications of Details for CBS measurement CB1230



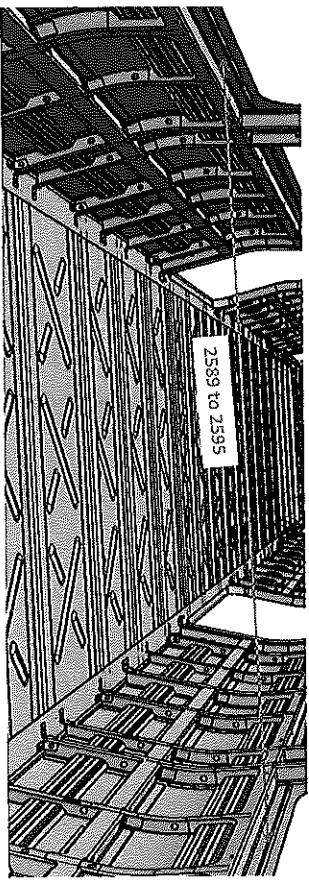
Detail C



Specifications of Details for CBS measurement CB1230



A	3590
B	3591
C	3592
D	3592
E	3594
F	3595
G	3589
H	3593
I	3593
J	3590
K	3591
L	3590
M	3593
N	3592
O	3590
P	3591



Threshold verification

		Nominal value :38	
Door 1		Door 3	
L	R	L	R
38	39	38	39
Door 4		Door 6	
L	R	L	R
39	38	39	38

BOILER MAKER:

Emanuel Engras

Weider Matnapelo



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Dye penetrant test

Dye-penetration test to be performed by quality personnel





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Specifications of Details for CBS measurement

[illegible]

11.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria Record	OK	NO	Revisions	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					



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Self Inspection - Final Result

Is the car good to advance to the next workstation/process?
(Approval of Operations and Industrial Quality)

DATE

NAME

SIGNATURE

(If activities are not complete, the missing activities must not impact the next stage)

06/05/24

Zaneke

Operations Manager

Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)

06/05/24

Anden

Industrial Quality

There are activities pending that impact/stop the activities of the next process
Obs: (To describe problems below)

Operations Manager

There are non-conformities impact the quality of the product and there is no corrective action defined yet)

Industrial Quality

HOLD POINT

NO GO

In case of "NO GO", describe blocking problems
open point : C2 seatbelt

In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description	Responsible	Due date	Status

Operations

Quality